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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,354	12/17/2001	Chris D. Tanton	65890-0002	2753

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EXAMINER

HARTMAN JR, RONALD D

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/023,354

Applicant(s)

TANTON, CHRIS D.

Examiner

Ronald D Hartman Jr.

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-30 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-26 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/17/2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-30 are presented for examination.

Information Disclosure Statement

2. The references submitted on 12/17/2001 have been considered by the Examiner at the time of this office action, and this is noted by the Examiner's initial next to each reference included in the IDS submitted on 12/17/2001.

Drawings

3. The drawings filed on 12/17/2001 are informal in nature, and although they are acceptable for examination purposes, new corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the features and or elements are handwritten and therefore are not suitable for reproduction. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Interpretations

4. As currently presented, the claims set forth (1) a base unit which performs a predetermined automation function, (2) an automation module which performs a predetermined automation function and (3) a combination of the base unit and the automation module which performs a predetermined automation function. For examination purposes, the predetermined automation functions of (1), (2) and (3) are viewed to be one and the same, that is, they are all viewed in light of the applicants disclosure, specifically page 4, to be "one or more predetermined automation functions involving, *inter alia*, the assembly, manufacture and/or verification of a manufactured product."

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-7, 9-16, 20-21 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Kukuljan, U.S. Patent No. 5,353,490.

As per claim 1, Kukuljan teaches a modular automation apparatus comprising:

- a base unit (e.g. Figure 2B) and an automation module (e.g. Figure 2A);
- wherein the base unit provides a predetermined control function and is adapted to receive the automation module and wherein the automation module provides a predetermined automation function, the automation module configured to mate with the base unit, wherein when the base unit and the automation module are combined together, the combination of the base unit and the automation module are capable of performing one or more predetermined automation functions (e.g. the base unit and the automation module being connected to form an apparatus graphically depicted by Figure 1, wherein the combined apparatus utilizes plural robots for performing different assembly procedures associated with different products; Abstract and C1 L47- C2 L7).

As per claims 2-3, Kukuljan teaches the automation module communicating electronically with the base unit through use of an electrical conduit (e.g. Figure 2B element 50).

As per claim 4, Kukuljan further teaches the automation module comprising a frame having a platform (e.g. Figure 1 element 12 corresponding to the "frame" and Figure 1 element 14 corresponding to the "platform" or "deck").

As per claim 5, Kukuljan further teaches the automation module comprising an automation device disposed thereon (e.g. Figure 1 element 16, "robot").

As per claims 6-7, Kukuljan teaches the use of a memory device for storing information used to control automation functions, wherein the information is comprised of at least one logic rule or data (e.g. C4 L39 – C5 L2).

As per claim 9, the rejection of claim 1, from above, is applied equally herein.

As per claim 10, Kukuljan teaches the base unit having a control cabinet affixed thereto (e.g. Figure 2B elements 30 and/or 34 and/or 42).

As per claims 11-12, Kukuljan teaches a control cabinet housing at least one control device that is a programmable logic controller (e.g. Figure 4 element 90; C4 L39-47).

As per claim 13, Kukuljan teaches the power control cabinet housing power supplies capable of powering the base unit and the automation module (e.g. Figure 3 and C4 L20-38).

As per claims 14-15, Kukuljan teaches the vision control cabinet housing at least one automation specific control device controller (e.g. vision controller; Figure 8 element 110 and Figure 5 and C5 L3-39).

As per claims 16 and 20, Kukuljan teaches the use of interface by disclosing the use of a user interface (e.g. the user interface corresponds to the disclosed "display" unit; Figure 1 element 52) and control signals being utilized for controlling the display is a feature that the disclosed features and or capabilities of Kukuljan inherently possesses the ability to perform.

As per claim 21, Kukuljan adequately contemplates a safety device on the base unit by providing for an "off" and "on" switch in addition to providing a main disconnect switch, Figure 3 element 79).

As per claim 23, Kukuljan teaches the automation device comprising a remote input-output device that communicates with the base unit for controlling the operation of the automation device (e.g. Figure 5 element 100).

As per claims 24-25, manufacturing and verifying a product through automation is taught by Kukuljan (e.g. C3 L 18-30).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kukuljan, as applied to claim 16 above, in view of Lapham, U.S. Patent No. 6,442,451.

As per claims 17-19, Kukuljan does not specifically teach the user interface prompting a user to perform a predetermined operation, or to accept a user input responsive to the prompting or the user interface comprising a touch sensitive display.

Lapham teaches all of the aforementioned features by providing a robot control system that utilizes a touch screen display for instructing the robot to perform specific commands and to display information about the operation of the robots to the user (e.g. Figure 1 elements 20 and 28, C5 L30-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the aforementioned features in the system

contemplated by Kukuljan since both systems are directed towards controlling robotic assemblies and since they would provide a simple way of presenting robotic data to the user so that the user may initiate commands in response to the represented data, all the while avoiding known complications associated with manual buttons (e.g. broken parts, missing springs, stuck buttons, etc.), and this would have been obvious to one of ordinary skill in the art at the time the invention was made.

9. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kukuljan, as applied to claim 21 above, in view of Hahn et al., International Publication Number WO 01/48416 A1.

As per claim 22, Kukuljan does not specifically teach the use of a light curtain.

Hahn et al. teaches the use of a protective light curtain for use when loading or unloading a tool (e.g. Abstract and claim 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the features of a light curtain, disclosed by Hahn, into the system disclosed by Kukuljan for the purpose of providing a protective means so that an operator does not interfere with the operations of the automation device and so that the operations may be turned off in the event that an operator mistakenly places his or her arms within the automation device when he or she is not supposed to, wherein the light curtain provides the ability for the automation device to be safely turned off without risking injury to the operator, and this would have been obvious to one of ordinary skill in the art at the time the invention was made.

10. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kukuljan, as applied to claim 1 above, in view of Official Notice.

As per claim 26, Official Notice is taken with respect to the use of storage racks for storing items which are awaiting connection to other items or components as they form a simple, orderly and reliable methodology for storing materials and or supplies, and therefore the incorporation of a storage rack would have been obvious to one of ordinary skill in the art at the time the invention was made so as to allow parts of the

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system, that is the modules which comprise the assembly of the automation manufacturing station, to be easily accessible by storing them together in one place, and this is most easily accomplished by providing a wall type storage so as to allow the storage of parts without requiring large amount of ground space to be dedicated to the storage means, and these advantages, with regards to the use of a storage racks, would have been obvious to one of ordinary skill in the art at the time the invention was made.

Allowable Subject Matter

11. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As per claim 8, the prior art of record fails to teach a modular automation apparatus comprising a base unit and an automation module, that when assembled or connected together, allows a memory device to download stored information into the base unit, in combination with the other claimed features and or limitations as claimed.

12. Claim 27-30 are allowed.

As per claims 27-30, specifically independent claims 27 and 28, the prior of record fails to teach a modular automation apparatus comprising a base unit and an automation module, that when assembled or connected together, allows a memory device to download stored information into the base unit, in combination with the other claimed features and or limitations as claimed.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald D Hartman Jr. whose telephone number is (571) 272 - 3684. The examiner can normally be reached on Mon. - Fri., 11:30 am - 8:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached at (571) 272 - 3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ronald D Hartman Jr.

Patent Examiner

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x RPH

A handwritten signature in black ink, appearing to read 'Anthony Knight', is written over the printed name.

Anthony Knight
Supervisory Patent Examiner
Group 3600